

March 15, 2017

Dave Blye Environmental Standards, Inc. 1140 Valley Forge Road PO Box 810 Valley Forge, PA 19482

RE: Project: Hudson River Remedial ActionRE

Pace Project No.: 10380577

Dear Dave Blye:

Enclosed are the analytical results for sample(s) received by the laboratory on March 02, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised on March 14, 2017 to correct the LCS and LCSD recoveries for TSS.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Carol Davy

Carol Day

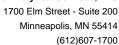
carol.davy@pacelabs.com

1(612)607-6436 Project Manager

Enclosures

cc: Meg Michell, Environmental Standards, Inc.







CERTIFICATIONS

Project: Hudson River Remedial ActionRE

Pace Project No.: 10380577

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680

California Certification #: 01155CA Colorado Certification #Pace Connecticut Certification #: PH-0256 EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605 Guam Certification #:14-008r Georgia Certification #: 959 Georgia EPD #: Pace

Idaho Certification #: MN00064 Hawaii Certification #MN00064 Illinois Certification #: 200011 Indiana Certification#C-MN-01 Iowa Certification #: 368 Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062 Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086 Louisiana DHH #: LA140001 Maine Certification #: 2013011 Maryland Certification #: 322 Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

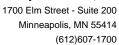
Ohio VAP Certification #: CL101 Oklahoma Certification #: 9507 Oregon Certification #: MN200001 Oregon Certification #: MN300001 Pennsylvania Certification #: 68-00563

Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

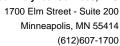
Project: Hudson River Remedial ActionRE

Pace Project No.: 10380577

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380577001	HFL-SVDB-T170301124240	Water	03/01/17 10:30	03/02/17 09:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Hudson River Remedial ActionRE

Pace Project No.: 10380577

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory	
10380577001	HFL-SVDB-T170301124240	SM 2540D	NAS	1	PASI-M	-

REPORT OF LABORATORY ANALYSIS

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(612)607-1700





PROJECT NARRATIVE

Hudson River Remedial ActionRE Project:

Pace Project No.: 10380577

Method: SM 2540D

Description: 2540D TSS, Low Level Client: Anchor QEA, LLC Date: March 15, 2017

General Information:

1 sample was analyzed for SM 2540D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: Hudson River Remedial ActionRE

Pace Project No.: 10380577

Sample: HFL-SVDB-T170301124240 Lab ID: 10380577001 Collected: 03/01/17 10:30 Received: 03/02/17 09:45 Matrix: Water

Parameters Results Units **PQL** MDL DF Prepared CAS No. Analyzed Qual 2540D TSS, Low Level Analytical Method: SM 2540D Total Suspended Solids 10.6 03/06/17 10:09 mg/L 1.0 0.50

(612)607-1700



QUALITY CONTROL DATA

Project: Hudson River Remedial ActionRE

Pace Project No.: 10380577

Date: 03/15/2017 09:13 AM

QC Batch: 462644 Analysis Method: SM 2540D

QC Batch Method: SM 2540D Analysis Description: 2540D TSS, Low Level

Associated Lab Samples: 10380577001

METHOD BLANK: 2529854 Matrix: Water

Associated Lab Samples: 10380577001

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Total Suspended Solids mg/L <1.0 1.0 0.50 03/06/17 10:09

LABORATORY CONTROL SAMPLE & LCSD: 2529855 2529856 Spike LCS LCSD LCS LCSD % Rec Max % Rec Parameter Units Conc. Result Result % Rec Limits **RPD RPD** Qualifiers Total Suspended Solids 7 mg/L 100 86.1 92.8 86 80-120

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Hudson River Remedial ActionRE

Pace Project No.: 10380577

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

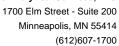
TNI - The NELAC Institute.

LABORATORIES

Date: 03/15/2017 09:13 AM

PASI-M Pace Analytical Services - Minneapolis

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hudson River Remedial ActionRE

Pace Project No.: 10380577

Lab IDSample IDQC Batch MethodQC BatchAnalytical MethodBatch10380577001HFL-SVDB-T170301124240SM 2540D462644

REPORT OF LABORATORY ANALYSIS

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10380577

Date: 03/15/2017 09:13 AM

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		3

NAMENTAL SAMPLE CHAIN OF CUSTODY

Project: Hudson River Remedial Action Monitoring Program - Resuspension Monitoring

COC ID: COC170301124340PACE
Sample Custodian: CCY
Lab: PACE

eservativo 504 **Turn Around Time** (hrs) z MS MSD LD z z METHOD SM 2540D NE294_02 **TEST REQUESTED** Total Suspended Solids CS PCBs

Containers

Time Collected

Media*

Date Collected

Matrix *

QA/QC EN≤

COC Sample Number

HFL-SVDB-T170301124240 Field Sample ID

004

03/01/2017

4degC 4degC

504

z

Z

Z

Commente					
Jemp 7.2 C	2				
Refinquished by:	Received by:	Relinquished by:	Received by:	Relinquished by:	Received by:
Signature	Signature / ///	Signature MMP 3	Signature Millim Millim Signature Si		Signature
Marketo C. K	Print Name M Creike	Print Name Mr. (3 20) Kregir	Print Name / Karon	Print Name	Print Name
Company (1)	Company PACE	Company PA(C) (MB)	MB Company Pacp	Сотралу	Company
(2; 2/ //// 2; 2)	13:57 Date Time 3/1/17 /326	Date/Time 2// 17 (40)	120 Date/Time 3/2/17 945	Date/Time	Date/Time
		e en	and the state of t		CONTRACTOR TO SERVICE TO SERVICE AND ADMINISTRATION OF THE SERVICE AND ADM
Date Printed: 3/1/2017	* S= SFDIMFNT W= W	NT W= WATER PW= PORE WATER	** W = Total/Whole D = Dis	** W = Total/Whole D = Dissolved R = Residue S = Sediment	Page 1 o

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Document Name:

Sample Condition Upon Receipt Form

Document No.: F-MN-L-213-rev.20

Document Revised: 19Dec2016 Page 1 of 2

Issuing Authority:
Pace Minnesota Quality Office

Sample Condition Upon Receipt Client Name:		I	Project :	WO#:10380577
Courier: Red Ex TUPS	USPS		ient	
	_]Other:			
Tracking Number: 7145 4771 6473				1/100001/
Custody Seal on Cooler/Box Present? Yes No	Sc	eals Inta	ct? 🔽	Yes No Optional: Proj. Due Date: Proj. Name:
Packing Material: Bubble Wrap Bubble Bags	None	17 6	ther:	Temp Blank? ☐Yes ☐No
Thermometer	Туре	of Ice:	Wet	☐Blue ☐None ☐Samples on ice, cooling process has begun
Cooler Temp Read (°C): Cooler Temp Corre		<u>. ()</u>	1	Biological Tissue Frozen? Yes No No
Temp should be above freezing to 6°C Correction Factor	: <u>५</u> ८	7.1	_ Date	and Initials of Person Examining Contents:
USDA Regulated Soil (V/A/A, water sample) Did samples originate in a quarantine zone within the United Sta	tes: AL. AF	R. CA. FL.	GA. ID. L	A. WS, Did samples originate from a foreign source (internationally
NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)?		□Ye	es 📑	No including Hawaii and Puerto Rico)? Yes VNo
If Yes to either question, fill out a Regul	lated Soil	Checklis	t (F-MN-	Q-338) and include with SCUR/COC paperwork.
	\mathcal{L}			COMMENTS:
Chain of Custody Present?	Yes	□No		1.
Chain of Custody Filled Out?	<u> </u> ₩	□No		2.
Chain of Custody Relinquished?	Yes	∏No	_/	3.
Sampler Name and/or Signature on COC?	∐Ye≱-	□No	₩ /A	4.
Samples Arrived within Hold Time?		□No		5.
Short Hold Time Analysis (<72 hr)?	Yes	□No/	-	6.
Rush Turn Around Time Requested?	Yeş	™No		7.
Sufficient Volume?	V y€\$	□No		8.
Correct Containers Used?	∀ Yes∕	□No		9.
-Pace Containers Used?	Ì √Yes/	□No		
Containers Intact?	∑ ves	□No	/	10.
Filtered Volume Received for Dissolved Tests?	Y ∮ s	□No	⊠ N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix:	es	□No		12.
All containers needing acid/base preservation have been			P	Positive for Res.
checked?	☐Yes	□No	∑ N/A	13. ☐HNO₃ ☐H₂SO₄ ☐NaOH Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation?			ſ	Sample #
(HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	□Yes	□No	Myja	
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin.	□Yes	□No	M/A	Initial when Lot # of added completed: preservative:
Headspace in VOA Vials (>6mm)?	Yes		M/A	14.
Trip Blank Present?	□Yes	□No	DIN/A	15.
Trip Blank Custody Seals Present?	□Yes	□No	N/A	
Pace Trip Blank Lot # (if purchased):	_	_	_ ′	
CLIENT NOTIFICATION/RESOLUTION				Field Data Required? Yes No
Person Contacted:				Date/Time:
Comments/Resolution:				
Project Manager Review:	302			Date: 3/2/17
	pliar sar	mples, a c	opy of thi	is form will be sent to the North Carolina DEHNR Certification Office (i.e. out of

hold, incorrect preservative, out of temp, incorrect containers).



Analytical Data Package

Prepared by:

Pace Analytical Services

Pace Project No.: 10380577

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InOrganic

Gravimetric

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Analysis Run Log (Form 13-IN)	.8
Preparation Logs Raw Data	.9

FORM I INORGANIC-1
INORGANIC ANALYSIS DATA SHEET

Lab Name: Pace Analytical - Minnesota	SDG No. : 10380577	Contract: Hudson River Remedial
Lab Sample ID: 10380577001		Percent Moisture:

CAS No.	Analyte	Concentration	Q	Units	DF	Analysis Date/Time
	Total Suspended Solids	10.6		mg/L	1	03/06/2017 10:09

FORM III INORGANIC-1 BLANKS

Lab Name: Pace Analytical - Minnesota	SDG No. : 10380577 Contract : Hudson River Remedial ActionRE
Method Blank Matrix: Water	Instrument ID: 10WET4
Method Blank Concentration Units: mg/L	

Analyte	Initial Calibration Blank		Continuing Calibration Blank						Method Blank	
		С		С		С		С	2529854	С
Total Suspended Solids									<1.0	U

03/17/2017 10:31 10380577

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FORM VI INORGANIC-1 DUPLICATES

2529856LCSD	

Lab Name:	Pace Analytical - Minnesota	SDG No.: 10380577	Contract:	Hudson River Remedial
Matrix:	Water	Concentration Units: mg/L		

Analyte	Control Limit	Sample	Duplicate	RPD
Total Suspended Solids	10	86.1	92.8	7

Basis: Wet

Percent Moisture:

FORM VII INORGANIC-1 LABORATORY CONTROL SAMPLE

2529855LCS	

Lab Name: Pace Analytical - Minnesota SDG No. : 10380577 Contract: Hudson River Remedial

Matrix: Water

Analyte	Units	True	Found	%R	Lin	nits
Total Suspended Solids	mg/L	100	86.1	86	80	120

FORM VII INORGANIC-2 LABORATORY CONTROL SAMPLE

52	98561	CSD

Lab Name: Pace Analytical - Minnesota SDG No.: 10380577 Contract: Hudson River Remedial

Matrix: Water

Analyte	Units	True	Found	%R	Lin	nits
Total Suspended Solids	mg/L	100	92.8	93	80	120

FORM IX INORGANIC-1 METHOD DETECTION LIMITS

Lab Name: Pace Analytical - Minnesota SDG No.: 10380577 Contract: Hudson River Remedial ActionRE

Preparation Method: SM 2540D Instrument ID: 10WET4

Concentration Units: mg/L

Analyte	PQL	MDL	MDL Date
Total Suspended Solids	2.0	1.0	04/01/2015

FORM XII INORGANIC-1 PREPARATION LOG

Lab Name: Pace Analytical - Minnesota SDG No. : 10380577 Contract: Hudson River Remedial ActionRE

Preparation Method: SM 2540D Batch: WET 52438

Lab Sample ID	Sample Name	Preparation Date	Initial Volume (mL)	Final Volume (mL)
2529854	2529854	03/06/2017	1000	500
2529855	2529855	03/06/2017	1000	500
2529856	2529856	03/06/2017	1000	500
10380577001	HFL-SVDB-	03/06/2017	1000	500

FORM XIII INORGANIC-1 ANALYSIS RUN LOG

Lab Name: Pace Analytical - Minnesota SDG No. : 10380577 Contract: Hudson River Remedial ActionRE

Instrument ID: 10WET4 Analysis Method: SM 2540D

Start Date: 03/06/2017 10:09 End Date: 03/06/2017 10:09

Sample Name	Lab Sample ID	D/F	Date	Time	tss w
2529854BLANK	2529854	1	03/06/2017	10:09	Х
2529855LCS	2529855	1	03/06/2017	10:09	Х
2529856LCSD	2529856	1	03/06/2017	10:09	Х
HFL-SVDB-T170301124240	10380577001	1	03/06/2017	10:09	Х

Pace Analytical Prep Log Report

Batch Information	Batch Information: WET 52438 TSS LL			Template Versior	Template Version: F-MN-I-326-Rev.03 (24Jan2017)	24Jan2017)	
Analysis Method	SM 2540D	Analyzed By	NAS	Instrument	10WET4	Acceptance Range:	103-105 C
⊒ ‰ ∂ 3805	10WET17	Thermometer ID	4310	Oven Temp Correction Factor	0	Oven Temp In1 Corr Date/Time Init	105.0 105.0 03/06/2017 10:09 NAS
Oven Temp Out1 Corr Date/Time Init	Corr Date/Time Init NAS	Desic. In 1 ID Date/Time Init	6 03/06/2017 11:15 NAS	Desic. Out 1 Date/Time Init	03/06/2017 13:48 NAS	Oven Temp In2 Corr Date/Time Init	105.0 105.0 03/06/2017 13:51 NAS
Oven Temp Out2 Corr Date/Time Init	Oven Temp Out2 105.0 105.0 03/06/2017 15:19 NAS	Desic. In 2 ID Date/Time Init	6 03/06/2017 15:19 NAS	Desic. Out 2 Date/Time Init	03/06/2017 16:17 NAS	Oven Temp In3 Corr Date/Time Init	105.0 105.0 03/06/2017 16:22 NAS
Oven Temp Out3 Corr Date/Time Init	Oven Temp Out3 104.0 104.0 03/06/2017 17:36 NAS	Desic. In 3 ID Date/Time Init	6 03/06/2017 17:36 NAS	Desic. Out 3 Date/Time Init	03/07/2017 08:06 NAS	Oven Temp In4 Corr Date/Time Init	104.0 104.0 03/07/2017 08:08 NAS
Oven Temp Out4 Corr Date/Time Init	Oven Temp Out4 104.0 104.0 03/07/2017 09:08 NAS	Desic. In 4 ID Date/Time Init	6 03/07/2017 09:09 NAS	Desic. Out 4 Date/Time Init	03/07/2017 09:38 NAS	Reviewed By	JFP
Reviewed By Date	03/07/2017 16:01	Batch Notes					

Sample Information:	rmation:	:uc]
ос Виle 9 of 10	Sample Type	Lab Sample ID	Select	aı	(J\gm) Isni3 S2T	TSS Posted (mg/L)	Run Date/Time	əmuloV lsitinl (Jm)	TSS Filters ()	Filter Wt 1 (9)	Filter Use 1	Oven Wt 1 (g)	t ∍sU n∍vO	Oven Wt 2 (g)
2540D WLL	BLANK	BLANK 2529854	Y	cH99X	0.0000	0	03/06/2017 10:09		111397 ()	0.1159	M	0.1159	Z	0.1159
2540D WLL	rcs	2529855	Y	cH99Y	86.100	172.20	03/06/2017 10:09	1000	111397 ()	0.1171	M	0.2068	N	0.2048
2540D WLL	LCSD	2529856	Y	cH99Z	92.800	185.60	03/06/2017 10:09	1000	111397 ()	0.1138	M	0.2093	Z	0.2081
2540D WLL	PS	10380577001	Y	cH9A0	10.600	21.200	03/06/2017 10:09	1000	111397 ()	0.1287	M	0.1391	N	0.1393
2540D WLL	PS	10380579001	Y	cH9A1	18.800	37.600	03/06/2017 10:09	1000	111397 ()	0.1289	M	0.1477	Z	0.1477

7					1
	Sample Notes				
	₩t Diff 3&4		0.0004	0.0001	
	Dven %Diff 3&4		0.46566	0.10782	
	₽ əsU nəvO	Z	Ā	Ā	
	(9) 4 tW navO		0.2032	0.2066	
	Oven Wt Diff 2&3		0.0020	0.0016	
	Oven %Diff 2&3		2.3068	1.7112	
	S əsU nəvO	Z	Z	Z	
	(9) £ łW nəvO		0.2028	0.2065	
	Oven Wt Diff 18.2	0.0000	0.0020	0.0012	
	Oven %Diff 1&2	NaN	2.2548	1.2645	
	S əsU nəvO	Y	Z	Z	
	Di əlqma2 dsJ	2529854	2529855	2529856	0500
	Sample Type	BLANK	TCS	TCSD	. 10:32:07 -(
	∂C Kule	2540D WLL	2540D WLL	2540D WLL	2017 10:32:07 -0500 2017 10:32:07 -0500
					_ J. <u></u> U

Mace Analytical Prep Log Report

Z	N	
Z	Z	
0.0002	0.0000	
1.9048	0.0000	
Y	Ā	
10380577001	10380579001	
PS	PS	
2540D WLL	2540D WLL	
	PS 10380577001 Y 1.9048 0.0002 N	PS 10380577001 Y 1.9048 0.0002 N N PS 10380579001 Y 0.0000 0.0000 N N

Sample Notes

Oven Wt Diff 3&4

TS/TDS-SPK (mL)		112198 (50)	112198 (50)		
Dalgma2 dsJ	2529854	2529855	2529856	10380577001	10380579001
Sample Type	K	TCS	TCSD	PS Sd	PS
შC Kule	2540D WLL	2540D WLL	2540D WLL	$\frac{2}{2}$ 2540D WLL	2540D WLL

Standard Notes:

112198: TS/TSS/TDS Handmade Standard, Used